No. 200500204

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Frito-Lay North America, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED DISTINCT VARIETY OF SEXUALLY REPRODUCED, OR TUBER PROPAGATED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF TWENTY YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR PORTING IT, OR EXPORTING IT, OR CONDITIONING IT FOR PROPAGATION, OR STOCKING IT FOR ANY OF THE VE PURPOSES, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT ED BY THE PLANT VARIETY PROTECTION ACT. (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

POTATO

'FL 2049'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of Washington, D.C. this fifth day of June, in the year two thousand and eight.*

Attest:

Commissioner
Plant Variety Protection Office
Agricultural Marketing Service

Secretary of Agriculture

REPRODUCE LOCALLY. *Include form number and date on all reproductions*

Form Approved - OMB No. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY - PLANT VARIETY PROTECTION OFFICE

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE
(Instructions and information collection burden statement on reverse)

The following statements are made in accordance with the Privacy Act of 1974 (5 U.S.C. 552a) and the Paperwork Reduction Act (PRA) of 1995.

Application is required in order to determine if a plant variety protection certificate is to be issued (7 U.S.C. 2421). Information is held confidential until certificate is issued (7 U.S.C. 2426).

1. NAME OF OWNER
Frito-Lay North America, Inc.

2. TEMPORARY DESIGNATION OR EXPERIMENTAL NAME
1997 129.05

3. VARIETY NAME
FL 2049

4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP Code, and Country)*
7701 Legacy Drive
Plano, TX 75024

5. TELEPHONE *(include area code)*
(972) 334-3822

6. FAX *(include area code)*
(972) 334-5965

FOR OFFICIAL USE ONLY

PVPO NUMBER
200500204

FILING DATE
April 8, 2005

7. IF THE OWNER NAMED IS NOT A "PERSON", GIVE FORM OF ORGANIZATION *(corporation, partnership, association, etc.)*
Corporation

8. IF INCORPORATED, GIVE STATE OF INCORPORATION
DE

9. DATE OF INCORPORATION
August 8, 1989

10. NAME AND ADDRESS OF OWNER REPRESENTATIVE(S) TO SERVE IN THIS APPLICATION. *(First person listed will receive all papers)*
Robert J. Jondle
Jondle & Associates, P.C.
858 Happy Canyon Road, Suit 230
Castle Rock, CO 80108

LMC 11-22-05

FEES RECEIVED

FILING AND EXAMINATION FEES:
$ 3652 00
DATE 4/8/2005

CERTIFICATION FEE:
$ 682 00
DATE 9/19/2005

11. TELEPHONE *(Include area code)*
(303) 799-6444

12. FAX *(Include area code)*
(303) 799-6898

13. E-MAIL
rjondle@jondlelaw.com

14. CROP KIND *(Common Name)*
Potato

16. FAMILY NAME *(Botanical)*
Solanaceae

15. GENUS AND SPECIES NAME OF CROP
Solanum tuberosum, L.

17. IS THE VARIETY A FIRST GENERATION HYBRID?
☐ YES ☑ NO

18. DOES THE VARIETY CONTAIN ANY TRANSGENES? *(OPTIONAL)*
☐ YES ☑ NO
IF SO, PLEASE GIVE THE ASSIGNED USDA-APHIS REFERENCE NUMBER FOR THE APPROVED PETITION TO DEREGULATE THE GENETICALLY MODIFIED PLANT FOR COMMERICALIZATION. _____

19. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED
(Follow instructions on reverse)

a. ☑ Exhibit A. Origin and Breeding History of the Variety
b. ☑ Exhibit B. Statement of Distinctness
c. ☑ Exhibit C. Objective Description of Variety
d. ☑ Exhibit D. Additional Description of the Variety *(Optional)*
e. ☑ Exhibit E. Statement of the Basis of the Owner's Ownership
f. ☑ Voucher Sample *(2,500 viable untreated seeds or, for tuber propagated varieties, verification that tissue culture will be deposited and maintained in an approved public repository)*
g. ☑ Filing and Examination Fee ($3,652), made payable to "Treasurer of the United States" *(Mail to the Plant Variety Protection Office)*

20. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE SOLD AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act)*
☐ YES *(If "yes", answer items 21 and 22 below)* ☑ NO *(If "no", go to item 23)*

21. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF CLASSES?
☐ YES ☑ NO
IF YES, WHICH CLASSES? ☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED

22. DOES THE OWNER SPECIFY THAT SEED OF THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
☐ YES ☑ NO
IF YES, SPECIFY THE NUMBER 1,2,3, etc. FOR EACH CLASS.
☐ FOUNDATION ☐ REGISTERED ☐ CERTIFIED
(If additional explanation is necessary, please use the space indicated on the reverse.)

23. HAS THE VARIETY (INCLUDING ANY HARVESTED MATERIAL) OR A HYBRID PRODUCED FROM THIS VARIETY BEEN SOLD, DISPOSED OF, TRANSFERRED, OR USED IN THE U. S. OR OTHER COUNTRIES?
☐ YES ☑ NO
IF YES, YOU MUST PROVIDE THE DATE OF FIRST SALE, DISPOSITION, TRANSFER, OR USE FOR EACH COUNTRY AND THE CIRCUMSTANCES. *(Please use space indicated on reverse.)*

24. IS THE VARIETY OR ANY COMPONENT OF THE VARIETY PROTECTED BY INTELLECTUAL PROPERTY RIGHT *(PLANT BREEDER'S RIGHT OR PATENT)*?
☐ YES ☑ NO
IF YES, PLEASE GIVE COUNTRY, DATE OF FILING OR ISSUANCE AND ASSIGNED REFERENCE NUMBER. *(Please use space indicated on reverse.)*

25. The owners declare that a viable sample of basic seed of the variety has been furnished with application and will be replenished upon request in accordance with such regulations as may be applicable, or for a tuber propagated variety a tissue culture will be deposited in a public repository and maintained for the duration of the certificate.

The undersigned owner(s) is(are) the owner of this sexually reproduced or tuber propagated plant variety, and believe(s) that the variety is new, distinct, uniform, and stable as required in Section 42, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Owner(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF OWNER		SIGNATURE OF OWNER	
Thomas P. Schur			
NAME *(Please print or type)*		NAME *(Please print or type)*	
Thomas P. Schur		Thomas P. Schur	
CAPACITY OR TITLE	DATE	CAPACITY OR TITLE	DATE
Secretary	26 JAN 05	Secretary	

(See reverse for Instructions and Information collection burden statement)

INSTRUCTIONS

GENERAL: To be effectively filed with the Plant Variety Protection Office (PVPO), **ALL** of the following items must be **received** in the PVPO: (1) Completed application form signed by the owner; (2) completed exhibits A, B, C, E; (3) for a seed reproduced variety at least 2,500 viable untreated seeds, for a hybrid variety at least 2,500 untreated seeds of each line necessary to **reproduce** the variety, or for tuber reproduced varieties verification that a viable *(in the sense that it will reproduce an entire plant)* tissue culture will be deposited and maintained in an approved public repository; (4) check drawn on a U.S. bank for $3,652 ($432 filing fee and $3,220 examination fee), payable to "Treasurer of the United States" *(See Section 97.6 of the Regulations and Rules of Practice.)* Partial applications will be held in the PVPO for not more than 90 days, then returned to the applicant as unfiled. Mail application and other requirements to Plant Variety Protection Office, AMS, USDA, Room 401, NAL Building, 10301 Baltimore Avenue, Beltsville, MD 20705-2351. Retain one copy for your files. All items on the face of the application are self explanatory unless noted below. Corrections on the application form and exhibits must be initialed and dated. **DO NOT** use masking materials to make corrections. If a certificate is allowed, you will be requested to send a check payable to "Treasurer of the United States" in the amount of $432 for issuance of the certificate. Certificates will be issued to owner, not licensee or agent.

Plant Variety Protection Office
Telephone: (301) 504-5518
FAX: (301) 504-5291
Homepage: http://www.ams.usda.gov/science/pvpo/pvpindex.htm

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To avoid conflict with other variety names in use, the applicant must check the appropriate recognized authority and provide evidence that name has been cleared by the appropriate recognized authority before the Certificate of Protection is issued. For example, for agricultural and vegetable crops, contact: Seed Branch, AMS, USDA, 10301 Baltimore Avenue, Suite 401 NAL Building, Beltsville, MD 20705. Telephone: (301) 504-5682 http://www.ams.usda.gov/lsg/seed.htm.

ITEM

19a. Give:
(1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method;
(2) the details of subsequent stages of selection and multiplication;
(3) evidence of uniformity and stability; and
(4) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified

19b. Give a summary of the variety's distinctness. Clearly state how this application variety may be distinguished from all other varieties in the same crop. If the new variety is most similar to one variety or a group of related varieties:

(1) identify these varieties and state all differences objectively;
(2) attach statistical data for characters expressed numerically and demonstrate that these are clear differences; and
(3) submit, if helpful, seed and plant specimens or photographs (prints) of seed and plant comparisons which clearly indicate distinctness.

19c. Exhibit C forms are available from the PVPO Office for most crops; specify crop kind. Fill in Exhibit C (Objective Description of Variety) form as completely as possible to describe your variety.

19d. Optional additional characteristics and/or photographs. Describe any additional characteristics that cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the characteristics that are difficult to describe, such as plant habit, plant color, disease resistance, *etc.*

19e. Section 52(5) of the Act requires applicants to furnish a statement of the basis of the applicant's ownership. An Exhibit E form is available from the PVPO.

20. If "Yes" is specified *(seed of this variety be sold by variety name only, as a class of certified seed)*, the applicant **MAY NOT** reverse this affirmative decision after the variety has been sold and so labeled, the decision published, or the certificate issued. However, if "No" has been specified, the applicant may change the choice. *(See Regulations and Rules of Practice, Section 97.103).*

23. *See Sections 41, 42, and 43 of the Act and Section 97.5 of the regulations for eligibility requirements.*

24. *See Section 55 of the Act for instructions on claiming the benefit of an earlier filing date.*

22. CONTINUED FROM FRONT *(Please provide a statement as to the limitation and sequence of generations that may be certified.)*

23. CONTINUED FROM FRONT *(Please provide the date of first sale, disposition, transfer, or use for each country and the circumstances, if the variety (including any harvested material) or a hybrid produced from this variety has been sold, disposed of, transferred, or used in the U.S. or other countries.)*

24. CONTINUED FROM FRONT *(Please give the country, date of filing or issuance, and assigned reference number, if the variety or any component of the variety is protected by intellectual property right (Plant Breeder's Right or Patent).)*

NOTES: It is the responsibility of the applicant/owner to keep the PVPO informed of any changes of address or change of ownership or assignment or owner's representative during the life of the application/certificate. The fees for filing a change of address; owner's representative; ownership or assignment; or any modification of owner's name is specified in Section 97.175 of the regulations. *(See Section 101 of the Act, and Sections 97.130, 97.131, 97.175(h) of the Regulations and Rules of Practice.)*

EXHIBIT A. Origin and Breeding History of the Variety 200500204

The variety FL 2049 originated in the Frito-Lay, Inc. private potato breeding program. The variety is the result of classical hybridization breeding. No gene insertion was involved in the breeding of FL 2049 or its parents. In 1995, Robert W. Hoopes made a cross at the Frito-Lay Agricultural Operations and Development facility near Rhinelander, Wisconsin, between the varieties FL 1887 and FL 1896. FL 1887 was chosen as a breeding parent because of its potential for high yields, low reducing sugars and light colored chips after storage. FL 1896 was chosen for its blackspot bruise resistance and excellent chip color out of storage.

Seeds from the cross FL 1887 x FL 1896 were sown in the greenhouse near Rhinelander in the summer of 1996 and the resulting tubers harvested in the fall of that year. Seedling tubers were planted in the field in the spring of 1997. One of the selections from this progeny was given the number "1997 129.5". This selection was tested for three years in Rhinelander, with solids measurements and potato chip fry samples taken after each harvest.

In 2000, 1997 129.5 was given the designation "FL 2049". It was tested in seventeen variety trials conducted by Frito-Lay throughout the United States in 2001and 2002. Yield and solids were consistently equal to Atlantic. FL 2049 also continues to fry well out of 5month storage and is moderately resistant to bruising.

FL 2049 has uniform, round to oval tubers and cream colored flesh. The tubers are medium to large in size with shallow eyes and smooth skin. The leaves of FL 2049 are quite large with lobed terminal and primary leaflets. It is a late maturing variety with white flowers. FL 2049's outstanding attributes include a very good yield history and bright white chips off the field and out of storage at 52°F to 5 months.

The variety FL 2049 has been judged stable since its origin as a single plant in 1997. FL 2049 is uniform for all traits as described in Exhibit C, and has shown no variants other than what would normally be expected due to environment.

Tissue culture plantlets of FL 2049 were established and are maintained at the Frito-Lay Agricultural Operations and Development facility near Rhinelander, Wisconsin.

EXHIBIT B: Statement of Distinctness

As a chipping variety, fresh or from storage, and in regards to yield and solids, FL 2049 is most similar to Atlantic. FL 2049 can be distinguished from Atlantic in regard to the following traits:

Tubers: FL 2049 tubers are oval to oblong in shape, whereas Atlantic tubers are round. Samples of the two varieties produced in field plots in Rhinelander, WI in 2003 gave the following mean dimensions (Norchip dimensions are included to provide a comparison with another chipping variety):

	Length	**Width**	**Thickness**	**L: W Ratio**
FL 2049	79.4 mm	66.7 mm	55.5 mm	1.190
Atlantic	73.8 mm	68.7 mm	55.3 mm	1.074
Norchip	60.8 mm	57.4 mm	34.8 mm	1.059

FL 2049 tubers have smoother skin than Atlantic and the tuber flesh is greyed-yellow (RHS 160D) as opposed to Atlantic's lighter yellow-white flesh (RHS 158A).

Flowers: FL 2049 flowers have a white corolla (RHS 157A), while the corolla of Atlantic is violet (RHS 82C) with white tips. Other differences include **1)** Flowering profusion. FL 2049 has fewer flowers than Atlantic. An average of 2.8 inflorescences per plant and 13 florets per inflorescence versus 7.2 and 19.6 respectively. **2)** Anther color. FL 2049 has yellow-orange anthers (RHS 17A); Atlantic has bright yellow (RHS 6A) anthers.

Foliage: The leaves of FL 2049 are quite large with broadly ovate terminal leaflets and lobed bases on most leaflets. Comparatively, Atlantic's terminal leaflets are medium ovate with cordate bases.

Isozyme pattern: Dr. David Douches of Michigan State University has conducted isozyme fingerprints of all available North American potato varieties, and has not found any two varieties with the same isozyme pattern for the enzymes tested. Dr. Douches has established the isozyme fingerprint of FL 2049 as being distinct from that of any other variety he has tested. (See Exhibit D-1 for the isozyme fingerprints of FL 2049, Atlantic, Norchip and Snowden)

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Form Approved OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
SCIENCE AND TECHNOLOGY
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MD 20705

Exhibit C

OBJECTIVE DESCRIPTION OF VARIETY
Potato (*Solanum tuberosum* L.)

INSTRUCTIONS

The Objective Description Form:
The objective description form lists characteristics to be used as the basis for developing the description of potato varieties. It is designed to guide the applicant in describing a variety in detail so a meaningful comparison with other potato varieties can be accomplished. It is recommended that this form be completed in as much detail as possible to ensure an accurate description. Please fill in the requested data and place the appropriate number that describes the varietal characters typical of this potato variety and the reference varieties in the respective boxes.

Test Guidelines:
Any statistical and trial (field test) data that may be necessary to support the variety description should be attached to this form. Please include for trial data the plot size, number of replications, number of plants, plant spacing, trial locations and growing periods. Trials should normally be conducted at one place, in the region that the variety has been adapted for, with a minimum of one growing period in the United States. All comparative data should be determined from varieties entered in the same trials. The size of the plots should be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made at the end of the growing period. As a minimum, each test should include a total of 60 plants which should be divided between two or more replicates. Separate plots for observation and measuring can only be used if they have been subject to similar environmental conditions. To determine color for a plant or plant parts a recognized standard color chart must be used such as the Royal Horticultural Society (R.H.S.) Color Chart.

Reference Varieties:
The application variety should be compared to at least one reference variety preferably a set of reference varieties. The reference varieties should be market class standard varieties currently grown in the United States and or the variety (ies) most similar. The following varieties are recommended as market class standards to be used as reference varieties:

Yellow-flesh table-stock	Yukon Gold
Round-white table-stock	Superior
Chip-processing	Atlantic, Snowden, Norchip
Frozen-processing	Russet Burbank
Russet table-stock	Russet Burbank, Russet Norkotah, Goldrush
Red table-stock	Red Pontiac, Red Norland, Red Lasoda

If the applicant does not use one of the recommended reference varieties the PVP office may not have a complete description for the reference variety used; therefore, the applicant may have to supply this description by completing an Exhibit C form for the reference variety.

Characteristics:

The plant type and growth habit characteristics are collected at early first bloom. Figure 1 is supplied to help visualize the growth habit. For this descriptor, look at the stems rather than the stems and foliage. Plant maturity is measured at natural vine senescence.

Stem characteristics are also collected at early bloom. Stem anthocyanin coloration is divided into two descriptors: Location and intensity. Figure 12 is supplied to give an example of stem wings.

Leaf characteristics are observed at early first bloom. Fully-developed leaves located on the middle third of the plant should be used. Leaf pubescence refers to general trichomes. Figure 2 is supplied for examples of leaf silhouette. Figure 3 should be used to describe terminal and primary leaflet shape. Figures 4 and 5 are used to describe the terminal and primary leaflet shape of tip and base, respectively. To measure the total number of primary leaflets pairs, collect 10 fully developed petioles (with leaves attached from each replication) and take the average number of secondary and tertiary leaflets. Figure 11 is supplied to define leaf characteristics. Glandular trichomes should be described through descriptor #12 (Additional Comments and Characteristics). Leaf stipules are shown in Figure 13 for visual definition.

Inflorescence characteristics should be measured at early first bloom. Figures 6 and 7 are supplied to describe corolla and anther shape, respectively. Corolla, calyx, anther, stigma, and pollen should be observed on newly opened flowers. Berry production should be based on field-grown plants rather than greenhouse plants.

Tuber characteristics should be observed following harvest. Figures 9 and 10 are available to describe distribution of secondary color and tuber shape, respectively.

Disease and pest reactions should be based upon specific tests rather than field observations. Other diseases or pests reactions not requested can be described if it is felt that it would be helpful to the description.

Quality characteristics should be described according to the market use.

If the plant is transgenic, this gene insertion(s) should be described.

Chemical identification and any other characteristics can be described if they are helpful in distinguishing the variety.

A rating system of 1-9 provides a scale for describing most characteristics in this form. Characteristic may be rated with intermediate values where the characteristic grades gradually from one extreme to another. For example, if the character states are described as: 3 = Small; 5 = Medium; 7 = Large; the other values of 1, 2, 4, 6, 8, or 9 may be selected.

Legend:

V = Application Variety

R1-R4 = Reference Varieties

* = Both the reference variety (ies) and application variety must be described for characteristics designated with an asterisk.

NAME OF APPLICANT (S)

Frito-Lay North America, Inc.

ADDRESS *(Street and No. or RD No., City, State, Zip Code and Country)*

7701 Legacy Drive
Plano, TX 75024

TEMPORARY OR EXPERIMENTAL DESIGNATION

1997 129.05

VARIETY NAME

20050204

FL 2049

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PVPO NUMBER

REFERENCE VARIETIES: Enter the reference variety name in the appropriate box.

Reference Variety 1 (R1)	Reference Variety 2 (R2)	Reference Variety 3 (R3)	Reference Variety 4 (R4)
Atlantic			

1. MARKET CHARACTERISTICS:

MARKET CLASS:

1 = Yellow-Flesh Table Stock 2 = Round-White Table stock 3 = Chip-Processing 4 = Frozen-Processing

5 = Russet Table stock 6 = Other _____

V	R1	R2	R3	R4
3	3			

2. PLANT CHARACTERISTICS:

GROWTH HABIT: (See Figure 1)
3 = Erect (>45° with ground); 5 = Semi-Erect (30-45° with ground); 7 = Spreading

V	R1	R2	R3	R4
6	5			

TYPE:
1 = Stem (foliage open, stems clearly visible); 2 = Intermediate; 3 = Leaf (Foliage closed, stems hardly visible)

V	R1	R2	R3	R4
2	2			

MATURITY: Days after planting (DAP) at vine senescence

V	R1	R2	R3	R4
122	120			

PLANTING DATE:

V	R1	R2	R3	R4
June 3, 2003	June3, 2003			

REGIONAL AREA:

V	R1	R2	R3	R4
Rhinelander, WI	Rhinelander, WI			

MATURITY CLASS:

1 = Very Early (<100 DAP) 2 = Early (100-110 DAP) 3 = Mid-Season (111-120 DAP) 4 = Late (121-130 DAP) 5 = Very Late (>130 DAP).

V	R1	R2	R3	R4
4	3			

3. **STEM CHARACTERISTICS**: Measure at early first bloom

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* **STEM ANTHOCYANIN COLORATION**:
1 = Absent 3= Weak 5 = Medium 7 = Strong 9 = Very Strong

V	R1	R2	R3	R4
5	4			

STEM WINGS: (See Figure 12)
1 = Absent 3= Weak 5 = Medium 7 = Strong 9 = Very Strong

V	R1	R2	R3	R4
2	5			

4. **LEAF CHARACTERISTICS**:

LEAF COLOR: (*Observe fully developed leaves located on middle 1/3 of plant)*
1 = Yellowing-green 2 = Olive-green 3 = Medium Green 4 = Dark Green 5 = Grey-Green 6 = Other

V	R1	R2	R3	R4
4	3			

LEAF COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart
(*Observe fully developed leaves located on middle 1/3 of plant and circle the appropriate color chart)*

V	R1	R2	R3	R4
147A	147B			

LEAF PUBESCENCE DENSITY:
1 = Absent 2 = Sparse 3 = Medium 4 = Thick 5 = Heavy

V	R1	R2	R3	R4
3	4			

LEAF PUBESCENCE LENGTH:
1 = None 2 – Short 3 = Medium 4 = Long 5 = Very Long

V	R1	R2	R3	R4
3	3			

(*Note Descriptor #19 can be used to describe the type and length of the glandular trichomes observed.)*

* **LEAF SILHOUETTE**: (See Figure 2)
1 = Closed 3 = Medium 5 = Open

V	R1	R2	R3	R4
2	4			

PETIOLES ANTHOCYANIN COLORATION:
1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very Strong

V	R1	R2	R3	R4
6	3			

LEAF STIPULES SIZE: (See Figure 13)
1 = Absent 3 = Small 5 = Medium 7 = Large

V	R1	R2	R3	R4
5	5			

TERMINAL LEAFLET SHAPE (See Figures 3 and 11)
1 = Narrowly Ovate 2 = Medium Ovate 3 = Broadly Ovate 4 = Lanceolate 5 = Elliptical 6 = Obovate 7 = Oblong 8 = Other

V	R1	R2	R3	R4
3	2			

4. **LEAF CHARACTERISTICS**: (continued)

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TERMINAL LEAFLET TIP SHAPE: (See Figures 4 and 11)
1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other

V	R1	R2	R3	R4
2	2/3			

* **TERMINAL LEAFLET BASE SHAPE**: (See Figures 5 and 11)
1 = Cuneate 2 = Acute 3 = Obtuse 4 = Cordate 5 = Truncate 6 = Lobed 7 = Other

V	R1	R2	R3	R4
6	4			

* **TERMINAL LEAFLET MARGIN WAVINESS**:
1 = Absent 2 = Slight 3 = Weak 4 = Medium 5 = Strong

V	R1	R2	R3	R4
2	3			

NUMBER OF PRIMARY LEAFLET PAIRS: (See Figure 11)

AVERAGE:

V	R1	R2	R3	R4
3.9	4.7			

RANGE:

V	R1	R2	R3	R4
3 to 4	4 to 6	to	to	to

PRIMARY LEAFLET TIP SHAPE: (See Figures 4 and 11)
1 = Acute 2 = Cuspidate 3 = Acuminate 4 = Obtuse 5 = Other

V	R1	R2	R3	R4
2	2			

* **PRIMARY LEAFLET SIZE**:
1 = Very Small 2 = Small 3 = Medium 4 = Large 5 = Very Large

V	R1	R2	R3	R4
5	3/4			

PRIMARY LEAFLET SHAPE: (See Figures 3 and 11)
1 = Narrowly Ovate 2 = Medium Ovate 3 = Broadly Ovate 4 = Lanceolate 5 = Elliptical 6 = Ovate 7 = Oblong 8 = Other

V	R1	R2	R3	R4
2	2			

PRIMARY LEAFLET BASE SHAPE: (See Figures 5 and 11)
1 = Cuneate 2 = Acute 3 = Obtuse 4 = Cordate 5 = Truncate 6 = Lobed 7 = Other

V	R1	R2	R3	R4
6	4			

4. **LEAF CHARACTERISTICS:** (continued)

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NUMBER OF SECONDARY AND TERTIARY LEAFLET PAIRS: (See Figure 11)

AVERAGE:

V	2.4	R1	5	R2		R3		R4	

RANGE:

V	2 to 3	R1	4 to 9	R2	to	R3	to	R4	to

NUMBER OF INFLORESCENCE/PLANT: SEE PAGE 7

AVERAGE:

V		R1		R2		R3		R4	

RANGE:

V	to	R1	to	R2	to	R3	to	R4	to

NUMBER OF FLORETS/INFLORESCENCE:

AVERAGE:

V		R1		R2		R3		R4	

RANGE:

V	to	R1	to	R2	to	R3	to	R4	to

* **COROLLA INNER SURFACE COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V		R1		R2		R3		R4	

COROLLA OUTER SURFACE COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V		R1		R2		R3		R4	

COROLLA INNER SURFACE COLOR: (Measure predominant color of newly open flower)
1 = White 2 = Red-violet 3 = Blue-violet 4 = Other

V		R1		R2		R3		R4	

COROLLA SHAPE: (See Figure 6)
1 = Very rotate 2 = Rotate 3 = Pentagonal 4 = Semi-stellate 5 = Stellate

V		R1		R2		R3		R4	

5. **INFLORESCENCE CHARACTERISTICS:**

NUMBER OF INFLORESCENCE/PLANT:

AVERAGE:

V	2.8	R1	7.2	R2		R3		R4	

RANGE:

V	2 to 4	R1	4 to 9	R2	to	R3	to	R4	to

NUMBER OF FLORETS/INFLORESCENCE:

AVERAGE:

V	13	R1	19.6	R2		R3		R4	

RANGE:

V	10 to 17	R1	15 to 26	R2	to	R3	to	R4	to

* **COROLLA INNER SURFACE COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V	155A	R1	82C	R2		R3		R4	

* **COROLLA OUTER SURFACE COLOR CHART VALUE:** Royal Horticulture Society Color Chart or Munsell Color Chart (Measure predominant color of newly open flower and circle the appropriate color chart)

V	157B	R1	82C	R2		R3		R4	

* **COROLLA INNER SURFACE COLOR:** (Measure predominant color of newly open flower)

1 = White 2 = Red-violet 3 = Blue-violet 4 = Other

V	1	R1	4	R2		R3		R4	

violet with white tips

COROLLA SHAPE: (See Figure 6)
1 = Very rotate 2 = Rotate 3 = Pentagonal 4 = Semi-stellate 5 = Stellate

V	3	R1	2	R2		R3		R4	

CALYX ANTHOCYANIN COLORATION:
1 = Absent 3 = Weak 5 = Medium 7 = Strong 9 = Very strong

V	7	R1	5	R2		R3		R4	

ANTHER COLOR CHART VALUE: Royal Horticulutre Society Color Chart or Munsell Color Chart (Measure when newly opened flower is fully expanded and circle the appropriate color chart)

V	17A	R1	6A	R2		R3		R4	

ANTHER SHAPE: (See Figure 7)
1 = Broad cone 2 = Narrow cone 3 = Pear-shaped cone 4 = Loose 5 = Other

V	1	R1	2	R2		R3		R4	

5. INFLORESCENCE CHARACTERISTICS: (continued)

200500204

POLLEN PRODUCTION:
1 = None 3 = Some 5 = Abundant

V	3	R1	3	R2		R3		R4	

STIGMA SHAPE: (See Figure 8)
1 = Capitate 2 = Clavate 3 = Bi-lobed

V	1	R1	1	R2		R3		R4	

STIGMA COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V	147B	R1	146B	R2		R3		R4	

BERRY PRODUCTION: (Under field conditions)
1 = None 3 = Low 5 = Moderate 7 = Heavy 9 = Very Heavy

V	3	R1	5	R2		R3		R4	

6. TUBER CHARACTERISTICS:

* **PREDOMINANT SKIN COLOR**:
1 = White 2 = Light Yellow 3 = Yellow 4 = Buff 5 = Tan 6 = Brown 7 = Pink 8 = Red 9 = Purplish-red 10 = Purple
11 = Dark purple-black 12 = Other

V	4/5	R1	5	R2		R3		R4	

PREDOMINANT SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color chart)

V	199D	R1	199B	R2		R3		R4	

SECONDARY SKIN COLOR;
1 = Absent 2 = Present (please describe)

V	1	R1	1	R2		R3		R4	

SECONDARY SKIN COLOR CHART VALUE: Royal Horticulture Society Color Chart or Munsell Color Chart (Circle the appropriate color)

V		R1		R2		R3		R4	

SECONDARY SKIN COLOR DISTRIBUTION:
1 = Eyes 2 = Eyebrows 3 = Splashed 4 = Scattered 5 = Spectacled 6 = Stippled 7 = Other

V		R1		R2		R3		R4	

SKIN TEXTURE:
1 = Smooth 2 = Rough (flaky) 3 = Netted 4 = Russetted 5 = Heavily russetted 6 = Other

V	1	R1	2/3	R2		R3		R4	

6. TUBER CHARACTERISTICS: (continued)

200500204

* **TUBER SHAPE:** (See Figure 10)
1 = Compressed 2 = Round 3 = Oval 4 = Oblong 5 = Long 6 = Other

V	3	R1	2	R2		R3		R4	

TUBER THICKNESS:
1 = Round 2 = Medium thick 3 = Slightly flattened 4 = Flattened 5 = Other

V	2	R1	1/2	R2		R3		R4	

TUBER LENGTH (mm):

AVERAGE:

V	79.4	R1	73.8	R2		R3		R4	

RANGE:

V	115 to 55	R1	111 to 40	R2	to	R3	to	R4	to

STANDARD DEVIATION:

V	13.7	R1	17.2	R2		R3		R4	

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	28.5 lbs	R1	50 lbs	R2		R3		R4	

TUBER WIDTH (mm):

AVERAGE:

V	66.7	R1	68.7	R2		R3		R4	

RANGE:

V	50 to 85	R1	40 to 109	R2	to	R3	to	R4	to

STANDARD DEVIATION:

V	7.9	R1	14.5	R2		R3		R4	

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	28.5	R1	50	R2		R3		R4	

6. **TUBER CHARACTERISTICS:** (continued)

TUBER THICKNESS (mm):

AVERAGE:

V	R1	R2	R3	R4
55.4	55.2			

RANGE:

V	R1	R2	R3	R4
41 to 70	35 to 82	to	to	to

STANDARD DEVIATION:

V	R1	R2	R3	R4
6.8	9.7			

AVERAGE WEIGHT OF SAMPLE TAKEN:

V	R1	R2	R3	R4
28.5	50			

TUBER EYE DEPTH:

1 = Protruding 2 = Shallow 3 = Intermediate 4 = Deep 5 = Very deep

V	R1	R2	R3	R4
2	3/4			

TUBER LATERAL EYES:

1 = Protruding 2 = Shallow 3 = Intermediate 4 = Deep 5 = Very deep

V	R1	R2	R3	R4
2	3			

NUMBER EYE/TUBER:

AVERAGE:

V	R1	R2	R3	R4
9.5	8			

RANGE:

V	R1	R2	R3	R4
7 to 13	6 to 11	to	to	to

DISTRIBUTION OF TUBER EYES:

1 = Predominantly apical 2 = Evenly distributed

V	R1	R2	R3	R4
1	1			

PROMINENCE OF TUBER EYEBROWS:

1= Not prominent 2 = Slight prominence 3 = Medium prominence 4 = Very prominent 5 = Other

V	R1	R2	R3	R4
4	2			

6. TUBER CHARACTERISTICS: (continued)

PRIMARY TUBER FLESH COLOR CHART VALUE: Royal Horticuluture Society Color Chart of Munsell Color Chart (Circle the appropriate color chart)

V	R1	R2	R3	R4
160D	158A			

SECONDARY TUBER FLESH COLOR:

1 = Absent 2 = Present, please describe: _____

V	R1	R2	R3	R4
1	1			

SECONDARY TUBER FLESH COLOR CHART VALUE: Royal Horticuluture Society Color Chart of Munsell Color Chart (Circle the appropriate color chart)

V	R1	R2	R3	R4

7. DISEASES CHARACTERISTICS:

DISEASES REACTION: 0 = Not Tested 1 = Resistant 3 = Moderately Resistant 5 = Moderately Susceptible 7 = Susceptible 9 = Highly Susceptible

BACTERIAL RING ROT, FOLIAR REACTION:

V	R1	R2	R3	R4
7	7			

BACTERIAL RING ROT, TUBER REACTION:

V	R1	R2	R3	R4
7	7			

LATE BLIGHT: Tuber

V	R1	R2	R3	R4
3	7			

PLRV (LEAF ROLL):

V	R1	R2	R3	R4

PVX:

V	R1	R2	R3	R4

PVY:

V	R1	R2	R3	R4

OTHER:

V	R1	R2	R3	R4

OTHER:

V	R1	R2	R3	R4

8. PESTS CHARACTERISTICS:

PEST REACTION: 0 = Not Tested 1 = Resistant 3 = Moderately Resistant 5 = Moderately Susceptible
7 = Susceptible 9 = Highly Susceptible

200500204

GOLDEN NEMATODE: Assumed susceptible based on parents

V	0	R1	1	R2		R3		R4	

OTHER:

V		R1		R2		R3		R4	

9. GENE TRAITS:

INSERTION OF GENES: ☐ YES ☒ NO

IF YES, describe the gene(s) introduced or attach information:

10. QUALITY CHARACTERISTICS:

CHIEF MARKET: Chip processing

SPECIFIC GRAVITY (wt. air/wt. air – wt. water)
1 = <1.060 2 = 1.060-1.069 3 = 1.070-1.079 4 = 1.080-1.089 5 = >1.090

V	4	R1	4	R2		R3		R4	

TOTAL GLYCOALKALOID CONTENT (mg./100 g. fresh tuber)

V		R1		R2		R3		R4	

Please see Exhibit D-2

OTHER QUALITY CHARACTERISTICS: Describe any other quality characteristics that may aid in identification, (e.g., chip-processing, french fry processing, baking, boiling, after-cooking darkening). Please attach data and corresponding protocol.

11. CHEMICAL IDENTIFICATION:

Describe chemical traits of the candidate variety that aid in its identification (e.g., protein or DSN electrophoresis). Please attach data and the corresponding protocol.

Isozyme fingerprint, Please see Exhibit D-1

12. ADDDITIONAL COMMENTS AND CHARACTERISTICS:

Include any additional descriptors that would be useful in distringuishing the candidate variety.

Figure 1: Growth Habit

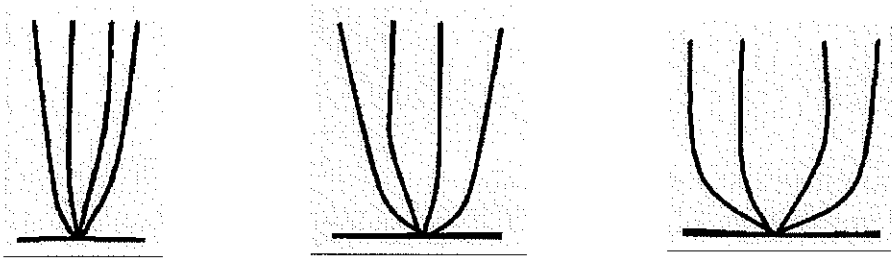


Figure 2: Leaf Sillhouette

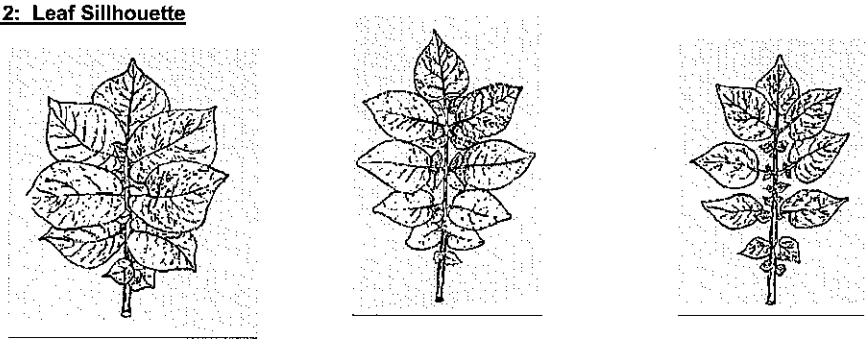


Figure 3: Terminal Leaflet Shape/Primary Leaflet Shape

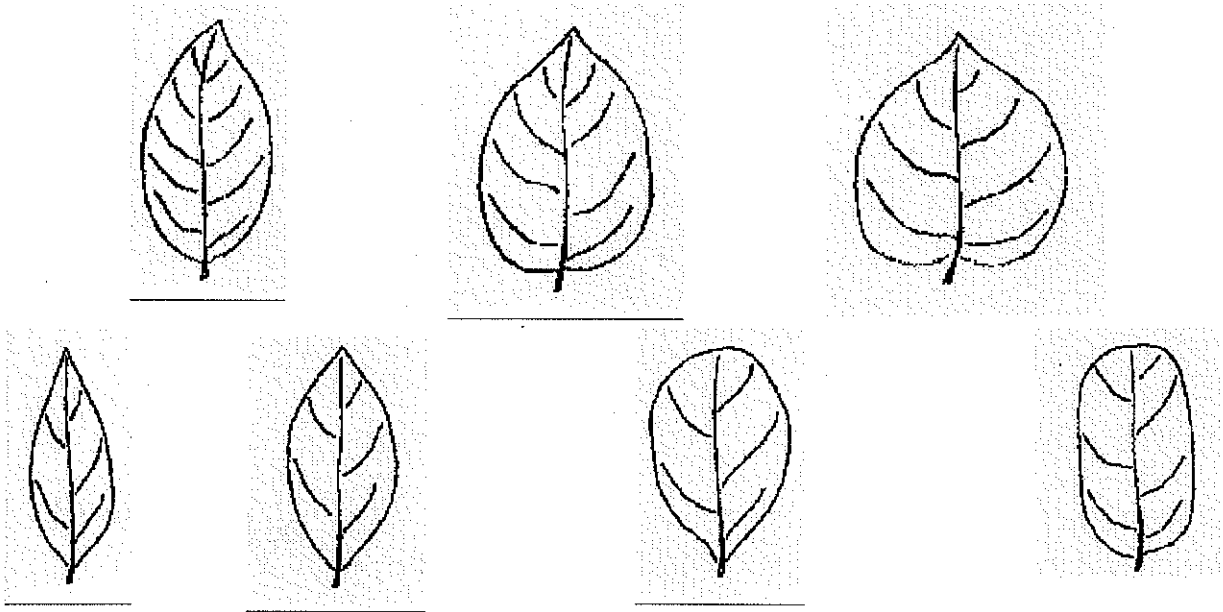


Figure 4: Terminal Leaflet Shape of Tip/Primary Leaflet Shape of Tip

Figure 5: Terminal Leaflet Shape of Base/Primary Leafelet Shape of Base

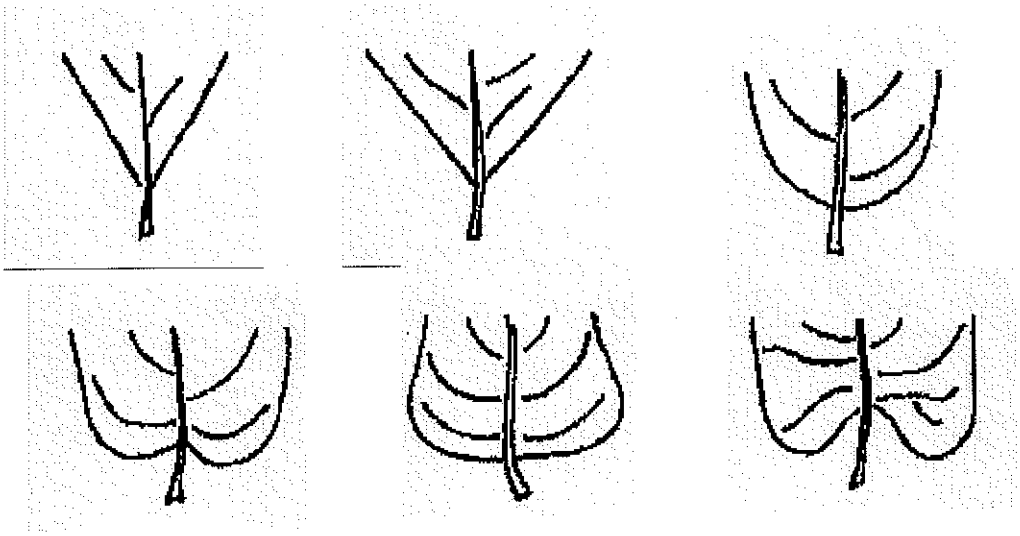
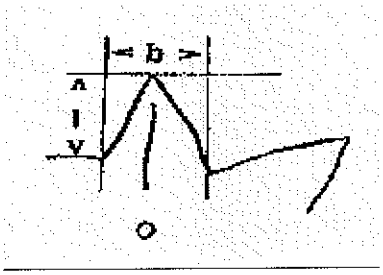
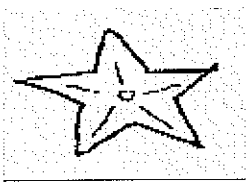
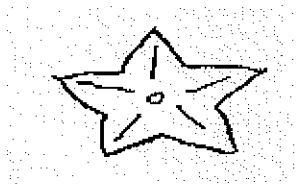


Figure 6: Corolla Shape

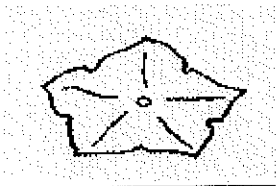




Stellate
1 > b

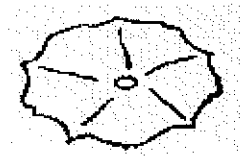


Semi-stellate
1 = b



Pentagonal
1 < b

Rotate
1 << b



Very rotate
1 <<< b

Figure 7: Anther Shape

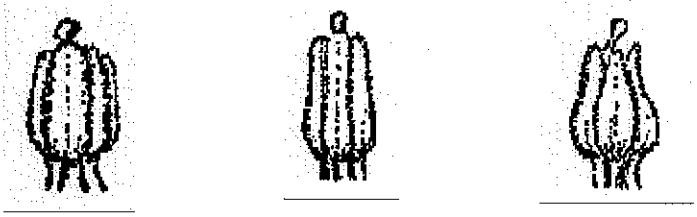


Figure 8: Stigma Shape

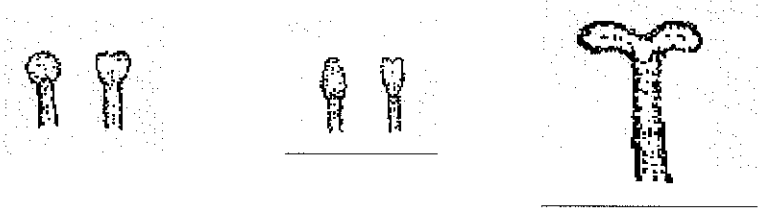


Figure 9: Distribution of Secondary Tuber Color

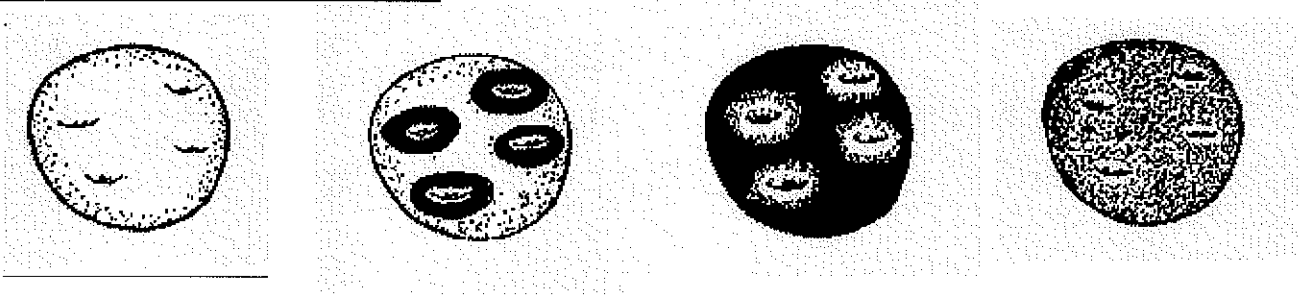


Figure 10: Tuber Shape

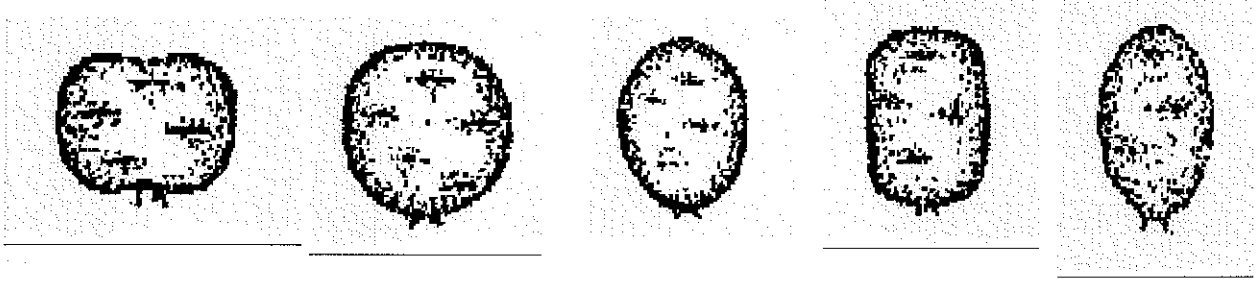


Figure 11: Leaf Dissection

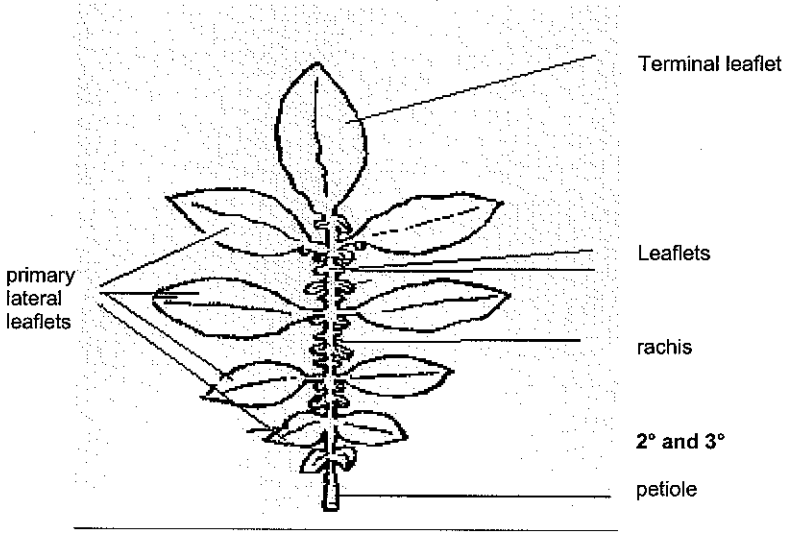


Figure 12: Stem Wings

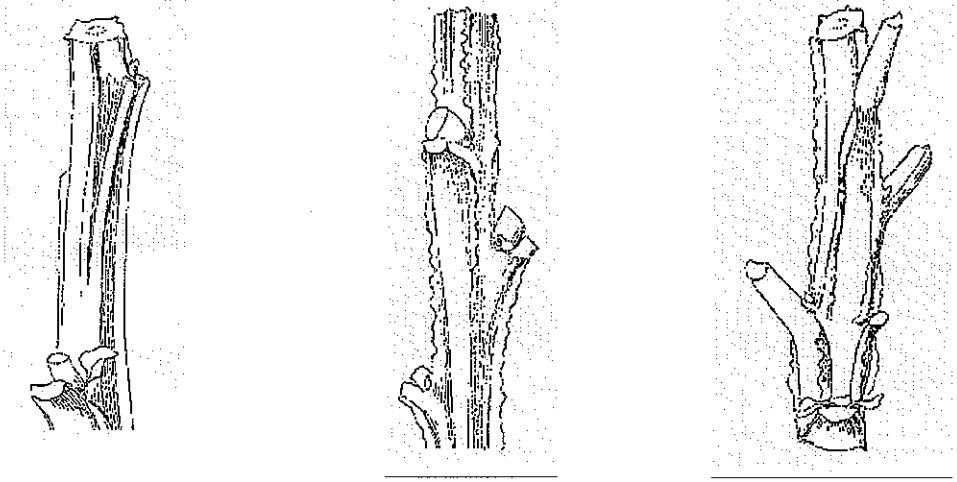
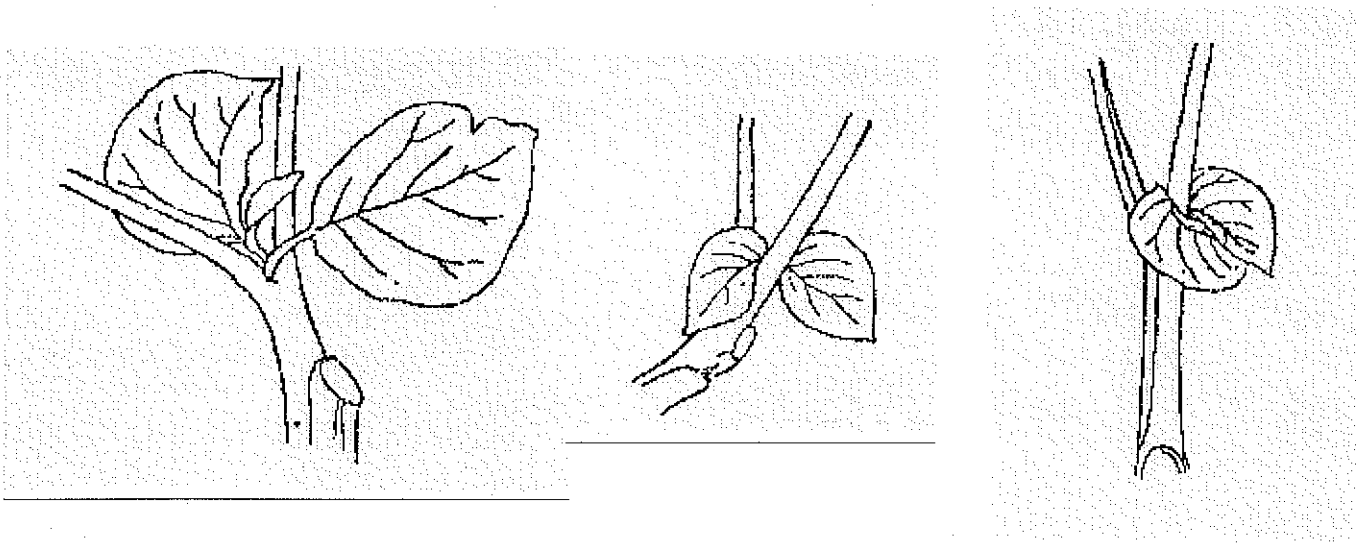


Figure 13: Leaf Stipules



LIGHT SPROUT CHARACTERISTICS:

20050204

1. Light sprout: general shape

		V	R1	R2	R3	R4
Spherical	1	3	4			
Ovoid	2					
Conical	3					
Broad cylindrical	4					
Narrow cylindrical	5					
Other (describe)	6					

2. Light sprout base: pubescence

		V	R1	R2	R3	R4
Absent	1	4	5/6			
Weak	3					
Medium	5					
Strong	7					
Very Strong	9					

3. Light sprout base: anthocyanin colouration

		V	R1	R2	R3	R4
Green	1	3	2/3			
Red-violet	2					
Blue-violet	3					
Other (describe)	4					

4. Light sprout base: intensity of anthocyanin colouration (if present)

		V	R1	R2	R3	R4
Absent	1	9	7			
Weak	3					
Medium	5					
Strong	7					
Very strong	9					

5. Light sprout tip: habit

		V	R1	R2	R3	R4
Closed	3	6	5			
Medium	5					
Open	7					

LIGHT SPROUT CHARACTERISTICS (continued)

200500204

		V	R1	R2	R3	R4
Absent	1					
Weak	3					
Medium	5					
Strong	7					
Very strong	9					

7. Light sprout tip anthocyanin colouration

		V	R1	R2	R3	R4
Green	1	3	2			
Red-violet	2					
Blue-violet	3					
Other (describe)	4					

8. Light sprout tip: intensity of anthocanin colouration (if present)

		V	R1	R2	R3	R4
Absent	1	7	5			
Weak	3					
Medium	5					
Strong	7					
Very strong	9					

9. Light sprout root initials: frequency

		V	R1	R2	R3	R4
Low	3	7	5			
Medium	5					
High	7					

EXHIBIT D: Additional description of the variety

As additional information about FL 2049, the following are included:

1) Isozyme fingerprint of FL 2049, with reference to the methodology utilized by Dr. David Douches of Michigan State University. Comparison of fingerprint of FL 2048 with that of Atlantic, Norchip and Snowden, shows distinct patterns for each variety.

2) Glycoalkaloid data for three years, comparing FL 2049 with Atlantic, furnished by Dr. Stephen Love of the University of Idaho.

3) Sugar profile of FL 2049 for the 2003/2004 storage season.

4) Photographs of typical plants, leaves and flowers of FL 2048, Atlantic, Norchip and Snowden from Rhinelander field, 2003.

5) Photographs of FL 2049, Atlantic, Norchip and Snowden tubers and sprouts.

EXHIBIT D-1

Isozyme fingerprints of FL2049 compared to three reference varieties

Variety	Year of Test	MDH1	MDH2	PGD3	IDH1	PGI1	APS1	GOT1	GOT2	PGM1	PGM2	DIA1	DIA2	PRX3	ADH1
FL 2049	2002	1224	2222	1222		2222		3344	3355	1113	2222				
Atlantic	1996	2223	2223	1122	1112	2222	1111	4444	3555	1112	2223	1112	1144	2222	
Norchip		2234	2222	1222		2224		3344	3335	1122	2222			1123	
Snowden	1995	1224	2222	2222	1112	2222		3344	3555	1122	2223	1111			

Source of Data: Dr. David Douches, Michigan State University, 2002

Procedures and allelic designations used are according to Douches, D.S and K. Lundlum. 1991. Electrophoretic Characterization of North American Potato Cultivars. Am Potato J. 68:767-780

Exhibit D-2

Glycoalkaloid history of FL2049 compared to Atlantic

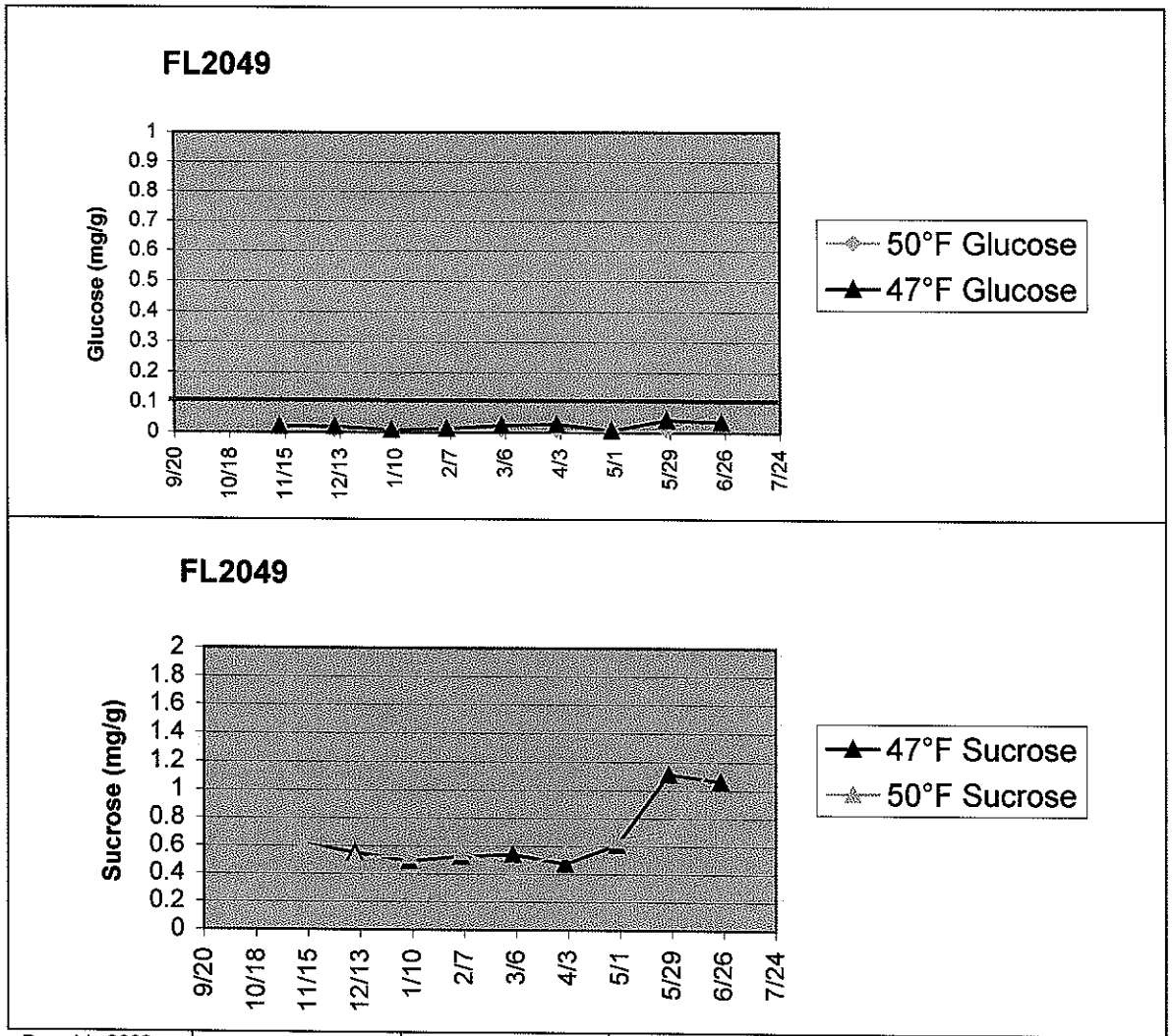
Variety	Year of Test	OD@ 600	STD (mg/OD)	(mg/ aliquot)	Total Volume (4 mg/ aliquot)	8g sample (total mg/ 8 g)	Solids	(total mg /8g*% solids)	Total Glycoalkaloids (mg/100g fresh)
FL 2049	2002	0.254	0.72	0.183	10.000	1.829		4.811	4.81
FL 2049	2002	0.180	0.72	0.130	10.000	1.296		3.408	3.41
FL 2049	2003	0.820	0.89	0.726	10.000	7.257	22.16	20.100	20.10
FL 2049	2003	0.871	0.71	0.621	10.000	6.210	21.63	16.791	16.79
FL 2049	2003	0.493	0.71	0.352	10.000	3.515	22.94	10.081	10.08
FL 2049	11/24/03	1.041	0.74	0.770	10.000	7.703	25.02	24.092	24.09
FL 2049NFT	11/24/03	0.766	0.74	0.567	10.000	6.668	24.09	17.066	17.07
FL 2049 SR (MI)	11/24/03	0.684	0.74	0.506	10.000	5.062	23.18	14.669	14.67
FL 2049-USDA	1/12/04								17.07
FL 2049-TEXAS	12/3/03	0.577	0.70	0.404	10.000	4.039	23.09	11.656	11.66
FL 2049-KEARNY	12/3/03	0.561	0.70	0.393	10.000	3.927	21.82	10.709	10.71
FL 2049-STARKS	12/2/04	0.614	0.72	0.440	10.000	4.390	21.60	11.853	11.85
FL 2049-KEARNY	12/2/04	0.284	0.72	0.200	10.000	2.031	22.55	5.724	5.72
Atlantic	1996								7.60
Atlantic	1998								14.15
Atlantic	1999	0.401	0.67	0.269	10.000	2.687	25.71	8.640	8.64
Atlantic	2000	0.326	0.68	0.222	10.000	2.217		6.868	6.87
Atlantic	2002	0.280	0.72	0.202	10.000	2.016		5.449	5.45
Atlantic	2002	0.257	0.72	0.185	10.000	1.850		5.001	5
Atlantic	2003	0.654	0.89	0.579	10.000	5.788	17.40	12.589	12.59
Atlantic	10/22/03	0.154	0.71	0.109	10.000	1.093	24.09	3.292	3.29
Atlantic	12/3/03	0.253	0.70	0.177	10.000	1.771	27.14	6.008	6.01
Atlantic-USDA	1/12/04								9.21
Atlantic-MI area trial	3/2004	0.602	0.72	0.433	10.000	4.334	25.60	13.867	13.87

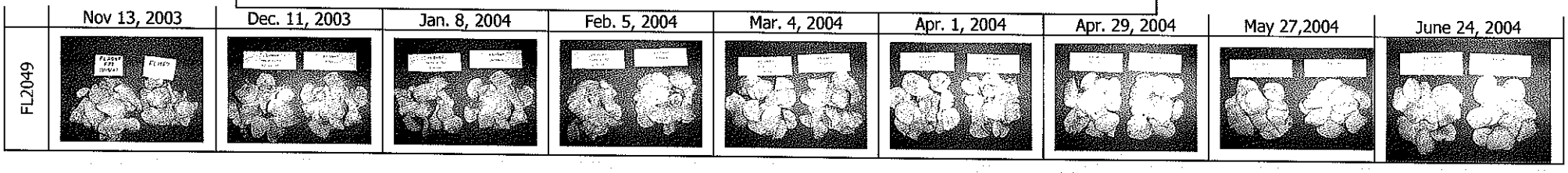
Source of data: Dr. Stephen Love, University of Idaho and Dr. Kenneth Deahl, USDA

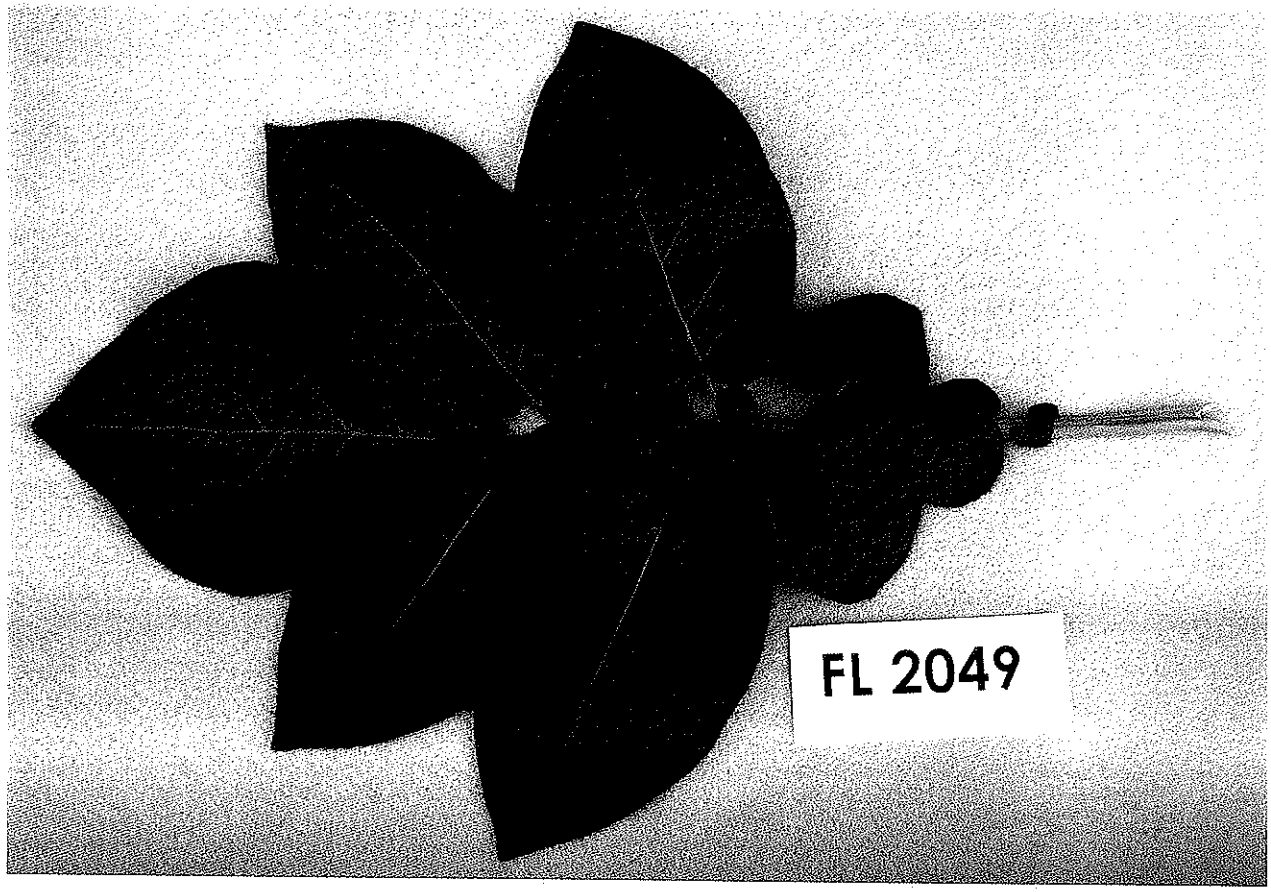
Exhibit D-3: Sugar profile

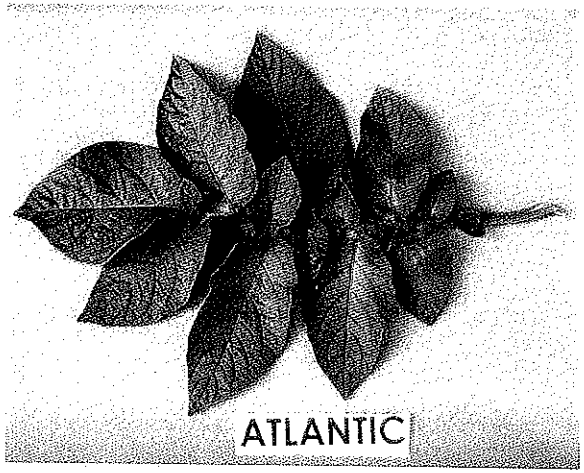
Potato samples were stored in bags set on pallets above air tubes in commercial storage bins. Four treatments were used, but due to quantities of tubers received not all varieties were included in all treatments. The four treatments were 44°F, 47°F, 50°F and 55°F. All four storage bins had fans running 24 hours and were kept at 100% relative humidity. The potatoes in each bin were sampled once each month from October through June for fry quality and sugars. Sample size was 12 potatoes. Pictures were taken of all fry samples along side the control FL 1867.

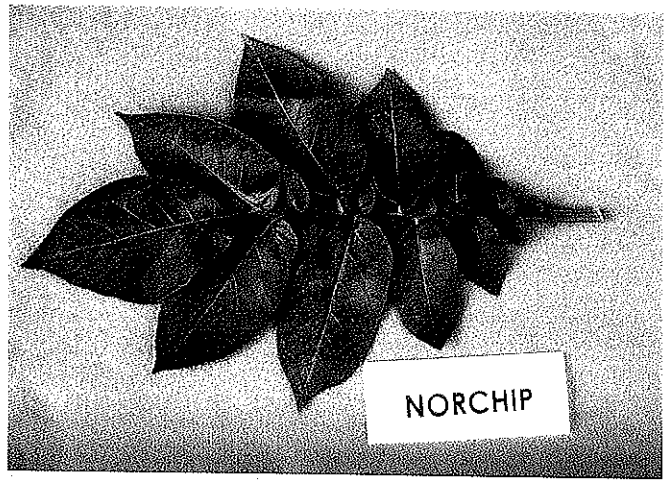
FL 2049 sugar levels stayed very low until the sucrose started to rise in early April. Sucrose levels got very high late in the year, however, glucose levels stayed low until the end of June when some color can be seen in the resulting chips. FL 2049 performed similarly at 47°F. (Note: the red line in the top graph is the theoretical amount of glucose that will produce color in potato chips)

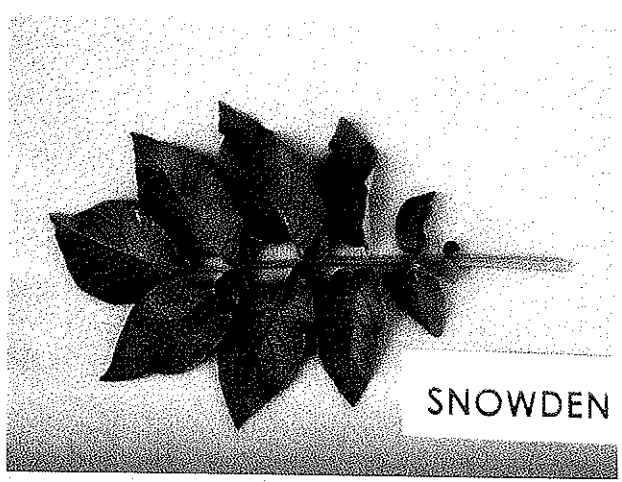

FL2049
Glucose (mg/g)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
9/20
10/18
11/15
12/13
1/10
2/7
3/6
4/3
5/1
5/29
6/26
7/24
50°F Glucose
47°F Glucose
FL2049
Sucrose (mg/g)
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
47°F Sucrose
50°F Sucrose


Nov 13, 2003
Dec. 11, 2003
Jan. 8, 2004
Feb. 5, 2004
Mar. 4, 2004
Apr. 1, 2004
Apr. 29, 2004
May 27,2004
June 24, 2004
FL2049





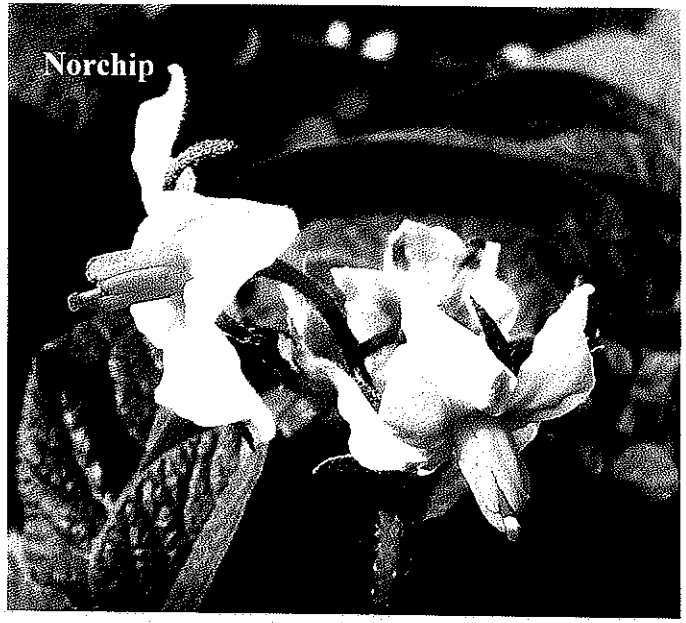


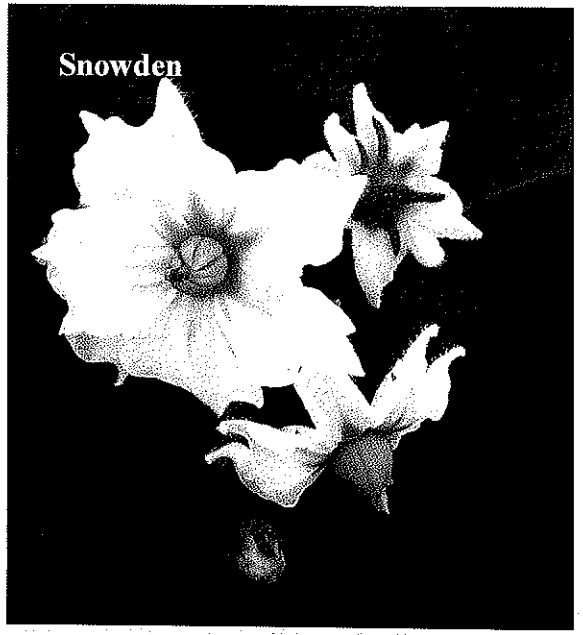



FL 2049


FL 2049


Atlantic


Norchip


Snowden

Atlantic

Norchip

Snowden

EL 2040

Atlantic

FL 2049

Norchip

FL2049

Snowden

Close up of the rachis

200500204

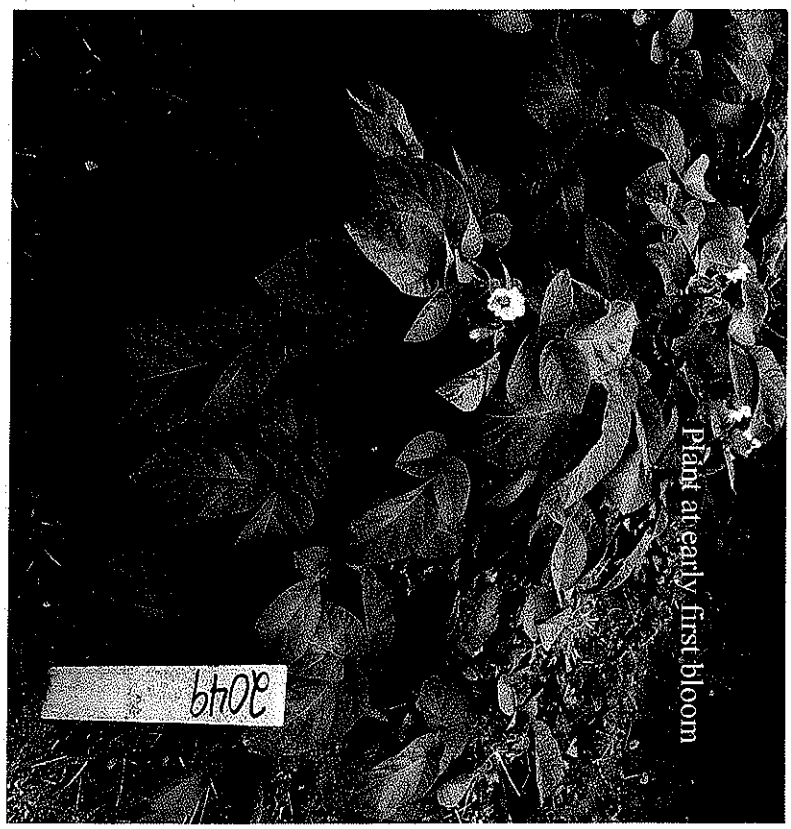
FL 2049

Rhinelander, WI


1255


Norchip


Shoulder St


3049
Plant at early first bloom

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U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE

EXHIBIT E
STATEMENT OF THE BASIS OF OWNERSHIP

Application is required in order to determine if a plant variety protection certificate is to be issued *(7 U.S.C. 2421)*. The information is held confidential until the certificate is issued *(7 U.S.C. 2426)*.

1. NAME OF APPLICANT(S)	2. TEMPORARY DESIGNATION OR EXPERIMENTAL NUMBER	3. VARIETY NAME
Frito-Lay North America, Inc.	1997 129.05	FL 2049
4. ADDRESS *(Street and No., or R.F.D. No., City, State, and ZIP, and Country)*	**5. TELEPHONE** *(Include area code)*	**6. FAX** *(Include area code)*
7701 Legacy Drive Plano, TX 75024	(972) 334-3822	(972) 334-5965
	7. PVPO NUMBER 200000204	

8. Does the applicant own all rights to the variety? Mark an "X" in the appropriate block. **If no, please explain.** ☑ **YES** ☐ **NO**

9. Is the applicant (individual or company) a U.S. national or a U.S. based company? **If no, give name of country.** ☑ **YES** ☐ **NO**

10. Is the applicant the original owner? ☑ **YES** ☐ **NO** **If no, please answer one of the following:**

a. If the original rights to variety were owned by individual(s), is (are) the original owner(s) a U.S. National(s)?
☐ **YES** ☐ **NO** **If no, give name of country**

b. If the original rights to variety were owned by a company(ies), is (are) the original owner(s) a U.S. based company?
☐ **YES** ☐ **NO** **If no, give name of country**

11. Additional explanation on ownership *(Trace ownership from original breeder to current owner. Use the reverse for extra space if needed)*:

Breeders employed by Frito-Lay developed the variety FL 2049. By agreement between Frito-Lay and its employees, all rights to inventions and discoveries made by the employees while employed by Frito-Lay are assigned to Frito-Lay North America, Inc. with no ownership rights of any kind retained by the employees.

PLEASE NOTE:

Plant variety protection can only be afforded to the owners (not licensees) who meet the following criteria:

1. If the rights to the variety are owned by the original breeder, that person must be a U.S. national, national of a UPOV member country, or national of a country which affords similar protection to nationals of the U.S. for the same genus and species.
2. If the rights to the variety are owned by the company which employed the original breeder(s), the company must be U.S. based, owned by nationals of a UPOV member country, or owned by nationals of a country which affords similar protection to nationals of the U.S. for the same genus and species.
3. If the applicant is an owner who is not the original owner, both the original owner and the applicant must meet one of the above criteria.

The original breeder/owner may be the individual or company who directed the final breeding. See Section 41(a)(2) of the Plant Variety Protection Act for definitions.